

# Medical science experts recommend preparing for winter months

The JSC Space and Life Sciences Directorate is recommending that employees traveling to Russia and others who are at risk of catching the flu begin to prepare now for winter with vitamin supplements and flu shots.

The Medical Sciences Division is urging employees who will travel to Star City, Russia, over the coming winter months take extra vitamin D along to supplement the loss of sunlight found in their diets at home at JSC.

"When we look at vitamin D stores for the astronauts and cosmonauts before flight, there is a decrease in their stores in the winter compared to the summer months," said Scott Smith, a research nutritionist in the

Medical Sciences Division. "The body makes vitamin D from sunlight and also gets vitamin D from the diet. Since Star City is so far north compared to Houston, employees should supplement their diet with vitamin D in the winter months. Since vitamin D in excessive amounts is harmful, the supplement should not exceed 10 micrograms per day."

Vitamin D assists in the process of maintaining calcium and phosphorus in the body. Vitamin D deficiency can cause calcium deficiency that may lead to bone loss.

In addition, the 1996 flu season is fast approaching and the JSC Clinic will offer

vaccinations for all NASA-badges and on-site contractor personnel for a limited time this fall.

The clinic will offer influenza shots daily from 10 a.m.-noon and 1:30-3 p.m. beginning Sept. 30 with one exception on Oct. 23.

"Everyone should be out enjoying Safety and Total Health Day," said Lynn Hogan. "On that day, the clinic will be open only for emergencies and occupational injuries."

Shots are recommended for people at increased risk for contracting the disease, including people over 65 years of age or who have chronic cardiovascular or pulmonary system illness. Individuals who are pregnant, have a fever or are hypersensitive to eggs or any other component of the vaccine will not be given the shot.

Influenza viruses have continually demonstrated an ability to cause major epidemics of respiratory disease. Typical flu illness is characterized by abrupt onset of fever, sore throat and nonproductive cough. This condition, unlike many other common respiratory infections, can cause extreme malaise lasting several days. More severe disease can result from invasion of the lungs by the flu virus including several types of pneumonia.

For additional information, call the clinic at x34111.



## ERAU satellite campus to open at Ellington

Embry-Riddle Aeronautical University will open a satellite campus at Ellington Field in January.

Jointly sponsored by the Human Resources Development Branch and Aircraft Operations, ERAU will offer two degree programs. A bachelor of science in aviation maintenance management will help develop careers by building a strong foundation in economics and management, technical studies in aircraft or avionics maintenance and general education studies. The bachelor of science in professional aeronautics will enhance aviation careers by broadening an education base and building on aviation experience. Prior aviation training and experience are prerequisites.

Individuals interested in participating need to make a commitment by Sept. 27 by contacting Mike Radmonovich at x49676 or Mary Lee Meider at x49862. With this information, ERAU will develop a curriculum and schedules. If enough employees commit, ERAU will have representatives at Ellington Field in October to assess qualifications, discuss applications and answer questions. For details on any of JSC's academic programs contact Kaz Hall at x33075.

## Employees may volunteer for inspection day

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control, flight training, aircraft operations, medical sciences and technologies, space sciences and a variety of engineering initiatives. Visitors will have the opportunity to ask questions and discuss projects and technologies with the key people associated with them.

Employees interested in getting involved in the Inspection can volunteer through their directorate office or contact the Inspection logistics center at 244-8753. Employees are encouraged to refer names and organizational details of technical and business associates who would benefit from this type of event. A special Internet site has also been established at <http://www.jsc.nasa.gov/seejsc>



JSC Photo by Robert Markowitz

**Business and Information Systems Acting Director Jane Stearns and JSC Procurement Officer Scott Thompson receive congratulations from the Small Business Administration District Director Milton Wilson for JSC's outstanding performance in managing the federal contracting office of the year. JSC set aside over 20 awards to small and disadvantaged firms during fiscal year 1996. This is a record for both JSC and for the SBA. From left are Stearns, Wilson, Thompson and Robert Neal, director of the small business program at the Department of Defense.**

## Lightweight fuel tank passes tests

NASA and Lockheed Martin engineers recently completed a successful series of tests to demonstrate the capability of the new super lightweight external fuel tank for the space shuttle.

The tests were designed to prove the tank's ability to withstand loads greater than flight certification requirements. The super lightweight tank is designed and manufactured by Lockheed Martin Manned Space Systems at the NASA Michoud Assembly Facility in New Orleans.

The successful tests, conducted at NASA's Marshall Space Flight Center, represent a significant milestone for both the shuttle and International Space Station programs. The lighter fuel tank will improve the shuttles' capability to carry cargo to the high inclination 51.6-degree-orbit where the International Space Station will be built. The tests included a first-ever, planned destructive test using a full-scale but shortened version of the external tank's new aluminum lithium hydrogen tank. The test article was 40 feet long, compared to the 154-foot length of a flight tank, but was built to full diameter, or 27.5 feet.

"This series of tests has demonstrated and

verified our robust design approach for the super lightweight tank," said Parker Counts, NASA's external tank project manager. The test program, which began in February, included a certification series of tests followed by the capability tests, which concluded on Sept. 5.

The super lightweight tank is constructed of aluminum lithium, which is a lighter, stronger material than the metal alloy currently used in the production of the shuttle's external tank. NASA was the first to use this new alloy in a major development program. The Marshall Space Flight Center and its contractors worked jointly to develop this alloy for the special applications required in the design of the super lightweight tank. The new external tank will be the same size as the current one, but 7,500 pounds lighter. This lighter weight means that programs will benefit from an additional 7,500 pounds of payload per flight.

The aluminum lithium metals technology associated with the super lightweight tank has been significantly advanced with production of this alloy and the development of manufacturing processes to machine, form and weld the material. This information may be used for future designs of weight critical space vehicles.

## JSC subcontractor, employee win awards

Debra Johnson of the Business and Information Systems Directorate and Software Maintenance Specialists Inc., will receive NASA awards next week.

Johnson, along with Laszlo Berke of Lewis Research and Rene Paquette of Kennedy Space Center, will be awarded NASA's Exceptional Achievement Medal for their significant support of the agency's programs in the small business, technical and procurement arenas.

SMS, a subcontractor for Rockwell Aerospace Space Systems Division, has been named Minority Subcontractor of the Year. SMS is under contract to JSC to provide mainframe computer processing for Rockwell's engineering requirements associated with shuttle support and manage mainframe network communication links to other Rockwell facilities and NASA centers.

Award winners will be honored by NASA Administrator Daniel S. Goldin Tuesday in Washington, D.C., during National Minority Enterprise Development Week.

## MCC open during STS-79

The Mission Control Center viewing room will be open to JSC and contractor badged employees and their families during portions of the STS-79 mission.

Employees will be allowed to visit the MCC from 11:30 a.m.-1:30 p.m. Wednesday and from 1-3 p.m. Saturday and Sunday. MCC also will open for viewing from 8-10 p.m. Monday for undocking.

Employees must wear their badges and escort family members through the lobby of Bldg. 30 South. Children under five will not be permitted. No flash photography or loud talking will be permitted at any time. Because of the dynamic nature of shuttle missions, viewing hours may be changed or canceled without notice.

For the latest information on the schedule, call the Employee Information Service at x32467.

## Fair is testbed for outreach

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fair and learn of the latest developments in computers, communications and technology, just as they did for farm machinery and agricultural products of fairs passed," said Rick Krueger, president of the Minnesota High Technology Council.

The outreach and education team used this event as a testbed for interactive outreach and education tools.

"If a piece of hardware can make it through the fair, we know we have a winner," said Renee Falls of the outreach and education team.

One of the items that passed the test was a Mission Control Center console rescued from surplus in Bldg. 419. Kids of all ages could not help but push the buttons, turn the knobs and learn that the piece had supported Gemini, Apollo, Skylab and shuttle flights. One visitor casually walked up to the console, studied it, and realized with delight that he had manned this same payload console for some early shuttle flights.

Astronaut and Minnesota native Bob Cabana, who took part in last year's fair by video-conference from Bldg. 9, travel to the fair this year. Astronauts Rich Clifford and Kevin Kregel supported the video-conference from Bldg. 9 with great success and response from the viewers.

## Atlantis to return home with Lucid Thursday

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investigation space, is nestled in *Atlantis'* cargo bay and will serve as a microgravity laboratory for the crew members.

Meanwhile, on Mir, Lucid with her Mir 22 crewmates, Commander Valery Korzun and Flight Engineer Alexander Kaleri, have filled bags with equipment, computer and optical discs, videotapes, air, water biological and materials processing experiment samples. All the bags will be transferred to *Atlantis*.

"We finished up most of the science and we're all packed up now and we're waiting for the 79 crew to show up," Lucid said last week. "One of the first things I want to do when I return home is I want to go up to the bookstore and see what new books have been published in the last six months and just browse

the bookstore for a long period of time. And I'm looking forward to getting out on my bicycle and riding and feeling the wind in your face and the sun on your back. And I'm also looking forward to getting on my rollerblades and going rollerblading with my daughters."

The Mir crew reviewed preparations for the arrival of *Atlantis* with Blaha and the STS-79 crew in Houston via a special videoconferencing linkup last week.

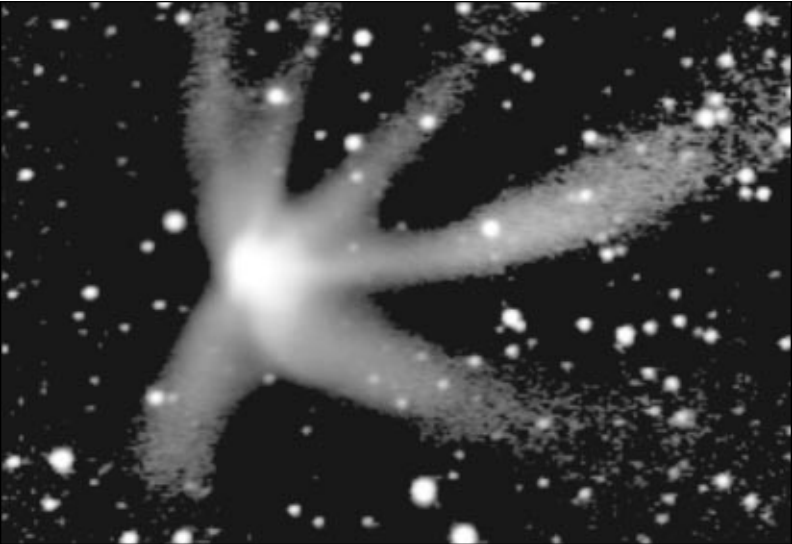
"I sent John a note and told him just to relax and just to enjoy his time up here ... just not get bogged down in the details," Lucid said. "Just come on up, relax, take each day as it comes and enjoy each day, and he'll have a great time."

The crew also watched the hurricane activity.

"They look like the pictures you

see of hurricanes," Lucid said "You know, great big white clouds swirling around. It's really pretty interesting to watch them, but as you look at them from up here, it's sort of hard to believe that they carry that much devastation within them, you know, on the other side of them. Because, we're looking down on top and it's just sort of an even circular white cloud and it's just hard to comprehend the misery and devastation that they're bringing to the people whose lives are touched down there on the Earth."

Once docking operations are complete *Atlantis* will undock with Mir at 8:31 p.m. Monday and bring Lucid home. *Atlantis* will return to KSC at 7:12 a.m. Thursday. An on-time landing of *Atlantis* will mark the end of a 188-day mission in space for Lucid.



**Al Kelly in the Mission Operations Business Management Office captures the Comet Hale-Bopp at his observatory 70 miles south southwest of Houston. This comet will reach its closest approach to the Sun April 1, 1997 and is predicted by many astronomers to become quite spectacular.**